EUROPEAN PATENT OFFICE

Patent Abstracts of Japan

PUBLICATION NUMBER

11176744

PUBLICATION DATE

: 02-07-99

APPLICATION DATE

16-12-97

APPLICATION NUMBER

: 09363417

APPLICANT: CANON INC;

INVENTOR: SUMIYOSHI YUHEI;

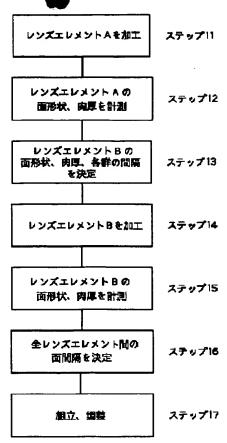
INT.CL.

: H01L 21/027 G03F 7/20

TITLE

ASSEMBLY ADJUSTMENT METHOD

OF PROJECTION OPTICAL SYSTEM



ABSTRACT :

PROBLEM TO BE SOLVED: To amend deterioration of optical performance caused by a preparation error, by calculating optical characteristic of a correcting optical member from measurement results of optical characteristic of an optical member and processing it.

SOLUTION: (S11) A lens element A is processed. (S12) Radius of curvature R of surface configuration and a thickness (d) are measured. (S13) Generated aberration is subjected to optimization calculation by employing a clearance between lenses, surface configuration R of a lens element B and a thickness (d) as parameters. (S14) A lens element B is processed based thereon. (S15) Surface configuration R of the lens element B and the thickness (d) of the lens element B are measured. (S15, 16) Generated aberration is subjected to optimization calculation by employing a clearance between lenses as a parameter and amended. (S17) Then, assembly adjustment is carried out. As a result, it is possible to amend deterioration of optical performance caused by a preparation error of an optical part, to make preparation of highly precise projection optical system easy and to further relax tolerance setting.

COPYRIGHT: (C)1999,JPO